## AMENDMENT TO THE CLAIMS

Below is a listing of the claims that will replace all prior versions and listings of claims in the present patent application.

Listing of Claims:

1.    (Currently amended) A method of processing ~~medical~~ image data comprising:

receiving data indicative of a group of consecutive cross sectional images of a three dimensional volume being imaged, each of the cross sectional images being perpendicular to a z-axis, the group of consecutive cross sectional images having a first axial resolution in a z-axis direction and having a first spatial resolution in x-axis and y-axis directions orthogonal to the z-axis;

performing a wavelet transform on the group of consecutive cross sectional images in the z-axis direction to generate an axially transformed representation of the group, the axially transformed representation having a second axial resolution lower than the first axial resolution; and

performing a differential pulse code modulation on the axially transformed representation in x-axis and y-axis directions to generate a spatially transformed representation of the axially transformed representation, the spatially transformed representation having a second spatial resolution lower than the first spatial resolution.

2.    (Original) The method of claim 1, further comprising generating reconstruction data to allow reconstruction of the group from the axially transformed representation.

3.    (Original) The method of claim 2, further comprising:

providing the axially transformed representation to a viewer; and

progressively providing the reconstruction data to allow reconstruction of the group at the first axial resolution.

4.        (Canceled)

5.        (Original)    The method of claim 1, further comprising performing entropy encoding of the axially transformed representation.

6.        (Canceled)

7.        (Canceled)

8.        (Previously presented)  The method of claim 1, further comprising:

providing the spatially transformed representation to a viewer; and

progressively providing information to allow reconstruction of the spatially transformed representation.

9.        (Previously presented)  The method of claim 1, further comprising performing entropy encoding of the spatially transformed representation.

10.       (Canceled)

11.       (Canceled)

12.       (Currently amended)  A method of processing ~~medical~~ image data comprising:

receiving data indicative of images representing consecutive cross sections of a three dimensional volume being imaged, the cross sections being perpendicular to a z-axis;

transforming, in one dimension, a plurality of the images in a z-axis direction to generate a first transformed representation of the three dimensional volume, wherein the transforming in one dimension comprises performing at least one level of wavelet decomposition; and

transforming, in two dimensions, the first transformed representation in an x-axis direction orthogonal to the z-axis direction and a y-axis direction orthogonal to the z-axis direction to generate a second transformed representation of the three dimensional volume, wherein the transforming in two dimensions comprises

performing at least one level of wavelet decomposition and at least one level of differential pulse code modulation.

13.    (Canceled)

14.    (Canceled)

15.    (Original)   The method of claim 12, further comprising performing entropy encoding of at least one of the group consisting of the first transformed representation and the second transformed representation.

16.    (Original)   The method of claim 15, wherein performing entropy encoding further comprises Huffman encoding.

17.    (Original)   The method of claim 16, wherein Huffman encoding further comprises a Huffman lookup table.

18.    (Original)   The method of claim 12, further comprising information for progressively reconstructing the second transformed representation, followed by information for progressively reconstructing the first transformed representation.

19.    (Original)   The method of claim 18, wherein the data stream further comprises an entropy decoding table for decoding entropy encoded data.

20.    (Original)   The method of claim 18, further comprising progressively extracting at least a portion of the information from the data stream according to a desired level of viewing detail of the three dimensional volume.

21.    (Original)   The method of claim 18, further comprising reconstructing the second transformed representation, then reconstructing the first transformed representation to achieve a desired level of viewing detail of the three dimensional volume.

22.    (Currently amended)   An apparatus for processing ~~medical~~ image data comprising:

a processor module, wherein the processor module is ~~specially~~ configured to receive data indicative of a group of consecutive cross sectional images of a three

dimensional volume being imaged, each of the cross sectional images being perpendicular to a z-axis, the group of consecutive cross sectional images having a first axial resolution in a z-axis direction and having a first spatial resolution in x-axis and y-axis directions orthogonal to the z-axis; ~~and~~

a processor module, wherein the processor module is ~~specially~~ configured to compress the group of consecutive cross sectional images in the z-axis direction to generate an axially transformed representation of the group, the axially transformed representation having a second axial resolution lower than the first axial resolution; and

a processor module, wherein the processor module is specially configured to perform differential pulse code modulation on the axially transformed representation of the group in a spatial direction, the spatially transformed representation having a spatial resolution lower than the first spatial resolution.